

# **Nuclear Material Stabilization and Disposition**

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***232-Z Decommissioning in Progress***



***Legacy Holdup Removal Activities***

## OVERVIEW

This section addresses work in Project Baseline Summary RL-0011, Nuclear Material Stabilization and Disposition.

NOTE: Unless otherwise noted, all information contained herein is as of the end of December 2003.

## NOTABLE ACCOMPLISHMENTS

### Maintain Safe and Secure Special Nuclear Materials (SNM)

Successfully completed the International Atomic Energy Agency material swap number five. This is the final scheduled material swap which facilitates the completion of the major Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2000-1 Milestone on stabilization.

### Stabilization of Nuclear Materials

**Metals, Alloys, Oxides and Polycubes:** Through December 31, 2003, 492 items were stabilized and packaged into DOE standard 3013 containers. Fiscal year to date oxide stabilization progress is ten items behind schedule out of a planned 1,732 items. However, contract-to-date stabilization progress is 47 items ahead of the scheduled 5,275 items planned. At this time stabilization of all oxides, the only remaining category of material open to complete the major DNFSB Recommendation 2000-1 Milestone on stabilization, is forecast to complete in February 2004 (due May 2004).

**Outer Can Packaging:** Through December 31, 2003, 149 of the 3013 cans were generated. Continued efficiencies in the canning process are being realized with fewer cans needed to package the overall planned number of items.

The PFP Stabilization Completion Plan was completed December 30, 2003. This project plan describes the remaining activities and critical interfaces associated with completing the scope of the SNM Stabilization Project.

### Disposition PFP Facility

#### Transition 232-Z Facility:

The 232-Z decommissioning subproject is 25 percent complete as of December 29, 2003. It should be noted that this includes FY 2003 activities which were primarily regulatory and safety documentation. During December, field work in the 232-Z building included removal of approximately 20 bags of firebrick from the glovebox combustion chamber floor, removal of the monorail I-Beam and external tubing from the top of the glovebox, removal of the conveyor chain within the glovebox, and continuation of piping size reduction activities.

Equipment identified during the 232-Z work planning workshop has been procured. This equipment will help to overcome visibility problems and tight quarters to allow size reduction and removal of the cyclone separator unit in the 232-Z incinerator glovebox.

## **NOTABLE ACCOMPLISHMENTS, CONTINUED**

Responses to the DNFSB lessons learned related to the Rocky Flats (RFET) May 6, 2003, glovebox fire were provided to RL on December 15, 2003. The RFET glovebox and the 232-Z incinerator glovebox have substantial differences which include:

- a. A specific work plan is being developed for 232-Z as opposed to a generic work plan at RFET. Also a specific Automated Job Hazards Analysis and start-up will be performed.
- b. The 232-Z glovebox is isolated whereas the RFET glovebox was adjacent to other gloveboxes and appeared to receive decontamination rags from other gloveboxes.
- c. Neutralization tests will be used to support 232-Z glovebox decontamination neutralization techniques.

**Transition 241-Z Facility:** Planning was completed and materials were received to support the replacement of all 241-Z below-grade area differential pressure gauges in early January. This will accommodate the planned aerosol fogging of the vault areas for contamination control during upcoming deactivation and decommissioning (D&D) activities.

A Facility Modification Plan was prepared and submitted for internal approval to permanently isolate unused electrical circuits that route through the 241-Z below-grade areas. This will simplify the lock and tag process for later below-grade area entries to execute D&D work.

**Legacy Plutonium (Pu) Holdup Removal and Disposition:** Legacy Pu holdup material removal from Glovebox MT-5 has been completed. Also during December material removal from gloveboxes HC-9B and MT-6 was well underway and is expected to be complete in January. Planning for holdup material removal activities for gloveboxes MT-1 and MT-2 was recently approved, with work expected to begin in late January. Over 8,000 grams of Pu holdup material have been removed in the past year.

**Laboratory Transition:** The PFP Transition Program Plan for Non-destructive Analysis (NDA) was completed December 19, 2003. This Program Plan identifies how the PFP's NDA group will support D&D activities.

**Transition Operations Support:** Verbal comments from the Washington State Department of Ecology (Ecology) were incorporated into the End Point Criteria document and resubmitted to the Ecology on December 8, 2003.

## **ISSUES**

**De-inventory Delay:** RL's direction to delay PFP de-inventory will require major revision of the PFP Closure Project baseline, including Performance Incentive revisions.

## **FY 2004 FH FUNDS VS FORECAST (\$000)**

	<b>FY 2004 Anticipated Funding w/Carryover</b>	<b>FY 2004 Fiscal Year Spend Forecast</b>	<b>Variance</b>
Nuclear Materials Stabilization & Disposition	\$ 161,513	\$ 164,310	\$ (2,797)

The Fiscal Year Spend Forecast reflects the DOE-directed two-year delay in SNM de-inventory as well as the disposition of fuel stored at PFP. The funding for December does not reflect the final FY 2004 funding allocation (an additional \$3M is anticipated). The revised funding is anticipated in January.

## FY 2004 SCHEDULE/COST PERFORMANCE (\$000)

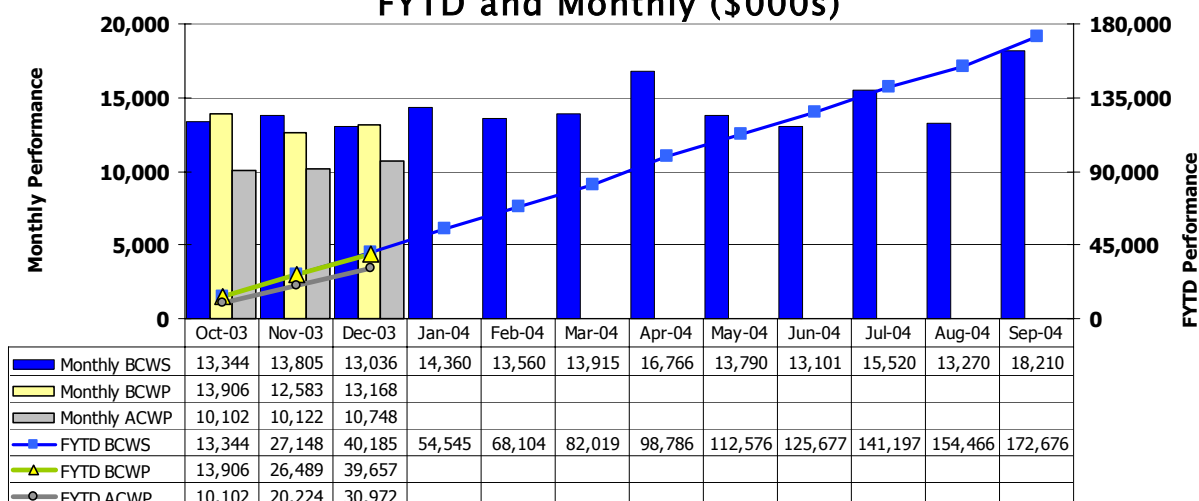
	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance \$	Schedule Variance %	Cost Variance \$	Cost Variance %	Budget At Completion
Nuclear Materials Stabilization & Disposition	40,185	39,657	30,972	-528	-1%	8,685	22%	172,676

**NOTE:** Numbers are rounded to the nearest \$K.

**Schedule Variance (-\$528K/-1%):** Significant schedule variance is being incurred due to delay in the Pu de-inventory. The negative variance is partially off-set by the early completion of residues packaging in FY 2003. Re-planning has been initiated to document the baseline impacts associated with a two-year delay in de-inventory.

**Cost Variance (\$8,685K/22%):** The favorable fiscal year to date cost variance is due to outstanding performance in three primary areas: Stabilization, D&D and the Closure Services Allocation. Stabilization progress is significantly ahead of schedule due to FY 2004 work scope and corresponding costs which were accelerated into FY 2003, while performance was claimed in FY 2004. D&D work scope accomplished in late September was reported in FY 2004. Also, partial performance on the staff ramp-up was claimed, since staff has been hired with minimal costs-to-date. The Closure Services Allocation also contributed to the positive cost variance (\$2,069K) as a result of revenue and work transfer alignments that will self correct during the year (i.e. 222-S transfer, RL-12 and RL-40 increases for approved baseline change requests) and the management hold on scope potentially cut by the FY 2004 appropriation.

### Performance Analysis FYTD and Monthly (\$000s)



## MILESTONE ACHIEVEMENT

Number	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comments
TRP-02-501	Complete Stabilization and Packaging of Polycubes	DNFSB	3/31/03	2/28/03		Complete
TRP-03-501	Submit Facility End Point Criteria Document to Ecology	TPA	9/30/03	9/30/03		Complete
TRP-03-503	Submit to Ecology a PFP Residual Chemical Hazards Assessment	TPA	12/31/02	12/27/02		Complete
TRP-03-504	Submit Closure Plan for 241-Z Waste Treatment Facility TSD Unit to Ecology	TPA	7/31/03	7/25/03		Complete
TRP-04-506	Completion of all Plutonium (Pu) Stabilization & Packaging	PI	2/18/04			On Schedule
TRP-04-508	Complete Repackaging of PFP Residues and Ship to Central Waste Complex (CWC)	TPA	4/30/04			Repackaging is complete. Shipment to CWC will be impacted since request to lower the attractiveness level D was denied. BCR in process.
TRP-05-501	Discontinue Waste Discharges from the 241-Z Tanks to Tank Farms	TPA	6/30/05			On Schedule
TRP-05-503	Special Nuclear Material Transferred to Savannah River Site of DOE Approved Interim Storage	PI	9/30/05		9/30/07	DOE has notified FH that the current shipping schedule will not be met.
TRP-05-504	Legacy Pu Holdup Removed & Dispositioned	PI	9/30/05			On Schedule
TRP-06-501	Complete 100% of Legacy Pu Holdup Removal & Disposition	TPA	9/30/06			On Schedule
TRP-06-502	Complete Transition & Dismantlement of the 232-Z Bldg Incinerator	TPA	9/30/06			On Schedule
TRP-06-503	Protected Area Eliminated	PI	12/31/05		12/31/07	Protected Area elimination will not be met due to delayed de-inventory
TRP-06-507	PFP Facilities (61 Buildings) Ready For Demolition	PI	9/30/06			On Schedule